A.D. 1855 . . . . N° 1981.

SPECIFICATION

OF

WILLIAM M^cLIESH.

FURNACES.

LONDON:
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A.D. 1855 . . . . N° 1981.

Furnaces.

(*This Invention received Provisional Protection, but notice to proceed with the application for Letters Patent was not given within the time prescribed by the Act.*)

PROVISIONAL SPECIFICATION left by William M^cLiesh at the Office of the Commissioners of Patents, with his Petition, on the 3rd September 1855.

I, William M^cLiesh, of Belfast, in the County of Antrim, Ireland, Manufacturing Chemist, do hereby declare the nature of the said Invention for "Improvements in Steam Boiler and other Furnaces, and in the Prevention of Smoke," to be as follows, that is to say:—

This Invention relates to a system or mode of arranging and constructing steam boiler and other furnaces, so as to obtain a more perfect combustion of the smoke than is effected in ordinary furnaces, and so as to render the action of the furnace more effectual than hitherto. In applying the Invention to internally-flued boilers in which the furnace is at one end of the main internal flue, a bridge or archway of fire brick or other suitable material is built over the front portion of the grate bars, extending backwards a suitable distance over the furnace. This archway is built so as to leave a thin or narrow space between itself and the inside of the boiler flue, through which space air is admitted from the front in such a manner as to cover or envelop the furnace flames in the form of a thin sheet as it issues into the furnace space at the back end of the archway, being considerably heated by the archway in its passage over it. The air may be admitted by holes in the front plate, or through any convenient valvular contrivance, which may be either automatic or adjustable by hand. At or near the inner end of the archway just described a second bridge or archway, of fire brick or other suitable material, is built over the furnace, but in contact with the inside of the flue, forming in fact a lining thereto. This lining is continued back a considerable distance beyond the bridge or throat of the furnace, and serves to protect that portion of the boiler which is usually exposed to the greatest heat; at the same time this lining becomes intensely heated, and insures the ignition of the smoke on the mixing with it of the air admitted through the passage already described. The same system of construction may also obviously be carried out in the furnaces of externally-flued boilers, and in any furnaces in which the main flue passes off from the back of the furnace, the minor details of arrangement being suitably modified in each case, as will be easily understood by the practical man.

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Printers to the Queen's most Excellent Majesty. 1856.